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The double life of probability

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PROPOSITIONS

defended in the dissertation

THE DOUBLE LIFE OF PROBABILITY

A Philosophical Study of Chance and Credence

Patryk Dziurosz-Serafinowicz

1. Various principles relating chances to credences, prior chances to posterior chances, and prior credences to posterior credences provide a fruitful way of theorizing about chance and credence.
2. We can master the concept of chance by analysing the roles it plays in our life. (chapter 2)
3. Under certain conditions, the expert role of chance codified in David Lewis's Principal Principle – a particular principle relating chance and credence – demands chance to be a finitely additive probability function. (chapter 2)
4. Principles relating prior and posterior chances follow from a plausible norm for chances that requires chance distributions to maximize resiliency upon variation of experimental factors. So-called Humean accounts of chance should be treated with caution insofar as they allow chances to violate those principles. (chapter 3)
5. The evolution of chance through time can be modelled as conditionalization on the intervening history of events. Under fairly plausible conditions, this model is equivalent to a principle relating prior and posterior chances. Chances that obey this principle maximize resiliency upon variation of intervening histories. (chapter 4)
6. Statistical evidence is conducive to the achievement of both verdict and credence accuracy in legal proceedings. A particular principle relating a fact-finder's credences with evidence about chance can be supported by appealing to a fairly plausible idea of accuracy in legal fact-finding. (chapter 5)
7. Updating by the principle of maximum relative entropy does not always lead to new credences that are expected to be helpful, and never harmful in making decisions. (chapter 6)